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NO. 2964 P. 1

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DATE: 8-31-06

PTO IDENTIFIER: Application Number 10/575843

Patent Number

Inventor: Martin Volland et al.

MESSAGE TO: US Patent and Trademark Office

FAX NUMBER: (571) 273-8300

FROM: CONNOLLY BOVE LODGE & HUTZ LLP

Ashley I. Pezzner

PHONE: (302) 658-9141

Attorney Dkt. #: 12810-00235-US

PAGES (Including Cover Sheet): 9

CONTENTS: Transmittal Of Translation Of International Preliminary Report On Patentability (1 page)
Translation of the International Preliminary Report On Patentability (6 pages)
Certificate of Transmission (1 page)

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CONNOLLY BOVE LODGE & HUTZ LLP
1007 North Orange Street, P.O. Box 2207, Wilmington, Delaware 19899
Telephone: (302) 658-9141 Facsimile: (302) 658-5614

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NO. 2964 P. 2

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Application No. (if known): 10/575843

Attorney Docket No.: 12810-00235-US

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Transmittal Of Translation Of International Preliminary Report On
Patentability
Translation of the International Preliminary Report On Patentability

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NO. 2964 P. 3

Application No.: 10/575843

AUG 31 2006

Docket No.: 12810-00235-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Martin Volland et al.

Application No.: 10/575843

Group Art Unit: N/A

Filed: April 13, 2006

Examiner: Not Yet Assigned

For: METHOD FOR THE CONTINUOUS
PRODUCTION OF ALDEHYDES

**TRANSMITTAL TRANSLATION OF INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

MS PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant submits herewith a translation of the International Preliminary Report On Patentability. The PCT Examiner noted that all the claims were deemed novel, had inventive step and industrial applicability. WO -A- 02/068371 which is cited in the International Preliminary Report On Patentability has already been submitted on an IDS by the applicant.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 03-2775, under Order No. 12810-00235-US.

Respectfully submitted,

By

Ashley I. Pezzner

Registration No.: 35,646

Christine M. Hansen

Registration No.: 40,634

CONNOLLY BOVE LODGE & HUTZ LLP

1007 North Orange Street

P.O. Box 2207

Wilmington, Delaware 19899

(302) 658-9141

Attorneys for Applicant

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PATENT COOPERATION TREATY

NO. 2964/EP. 4/011530

US - concolly

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY
(CHAPTER I OR CHAPTER II
OF THE PATENT COOPERATION TREATY)
(PCT Rules 44bis.3(c) and 72.2)

To:

Global Intellectual Property

17. Aug. 2006

BASF Aktiengesellschaft
67056 Ludwigshafen
ALLEMAGNE

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AUG 31 2006

Date of mailing (day/month/year)
03 August 2006 (03.08.2006)

Applicant's or agent's file reference
0000054987

IMPORTANT NOTIFICATION

International application No.
PCT/EP2004/011530

International filing date (day/month/year)
14 October 2004 (14.10.2004)

Applicant

BASF Aktiengesellschaft et al

EL: Phase beendet 22.03.2006

1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Ellen Moyse

Facsimile No. +41 22 338 82 70

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

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Applicant's or agent's file reference 0000054987	FOR FURTHER ACTION		See item 4 below
International application No. PCT/EP2004/011530	International filing date (day/month/year) 14 October 2004 (14.10.2004)	Priority date (day/month/year) 21 October 2003 (21.10.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant BASF Aktiengesellschaft			

- This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
- This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.
- This report contains indications relating to the following items:

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application
- The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70 Form PCT/IB/373 (January 2004)	Date of issuance of this report 27 July 2006 (27.07.2006)
	Authorized officer Ellen Moyse e-mail: p05@wipo.int

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

Translation

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year)		See Form PCT/ISA/210 (sheet 2)
Applicant's or agent's file reference 0000054987		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/EP2004/011530	International filing date (day/month/year) 14.10.2004	Priority date (day/month/year) 21.10.2003
International Patent Classification (IPC) or both national classification and IPC C07C45/50, B01J31/24, C07C47/02		
Applicant BASF Aktiengesellschaft		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

Form PCT/ISA/237 (cover sheet) (January 2004)

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NO. 2964 P. 7

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/EP2004/011530

Box No. 1	Basis of this opinion
1.	<p>With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.</p> <p><input type="checkbox"/> This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).</p>
2.	<p>With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:</p> <p>a. type of material</p> <p><input type="checkbox"/> a sequence listing</p> <p><input type="checkbox"/> table(s) related to the sequence listing</p> <p>b. format of material</p> <p><input type="checkbox"/> in written format</p> <p><input type="checkbox"/> in computer readable form</p> <p>c. time of filing/furnishing</p> <p><input type="checkbox"/> contained in the international application as filed.</p> <p><input type="checkbox"/> filed together with the international application in computer readable form.</p> <p><input type="checkbox"/> furnished subsequently to this Authority for the purposes of search.</p>
3.	<p><input type="checkbox"/> In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.</p>
4.	<p>Additional comments:</p>

Form PCT/ISA/237 (Box No. 1) (January 2004)

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/011530

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>1-7</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-7</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-7</u>	YES
	Claims		NO
2. Citations and explanations:			
D1 = WO-A-02/068371			
1. The present invention relates to a process for the continuous preparation of aldehydes by hydroformylation of olefins.			
2. The document D1 cited on page 7, lines 19-28, is considered to be the closest prior art. It discloses a process for the continuous hydroformylation of olefinically unsaturated compounds by means of synthesis gas in the presence of complexed, homogenous rhodium catalysts, with the reaction being carried out in two successive reaction stages (see D1, claims 1, 7, 15, 18 and 20; page 4, lines 6-11). The total pressure in the first and second reaction stage extends over a range from 2 to 200 bar, and the CO/H ₂ molar ratio is in each case in the range from 1:10 to 10:1 (cf. D1, page 9, line 29 - page 10, line 2 and page 18, lines 9-18). In the single working example of the process according to D1 (example 1), the second reaction stage is carried out at a higher pressure (25 bar) than that in the first stage (21 bar).			
3. Starting out from this prior art, the object of the present application can be considered to be discovery of an improved process for the hydroformylation of mixtures of internal and α -olefins, which makes it possible to prepare aldehydes with relatively high n-selectivity from these mixtures.			
4. The process according to the present claim 1 differs from the known process in that the total pressure in the subsequent			

Form PCT/ISA/237 (Box No. V) (January 2004)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/011530

Box No. V

Reasoned statement under Rule 43bis1(a)(i) with regard to novelty, inventive step or industrial applicability:
citations and explanations supporting such statement

reaction zone is more than 1 bar lower than in the preceding reaction zone, with the CO partial pressure in the subsequent reaction zone likewise being lower. According to example 7 of the process of the invention, valeraldehyde having a n content of 96.1% (n/i ratio 96.1:3.9) is prepared from a 1-butene/2-butene mixture. This result is far superior to the n/i ratio achieved in D1 (67:33), especially since the butene mixture used in example 7 has a significantly higher proportion of 2-butene. The available prior art gives no suggestions which would have led a person skilled in the art to improve the n-selectivity of the previously described process by means of the alterations made according to the invention to the pressure ratios.

The subject matter of claim 1 therefore meets the requirements of PCT Article 33(2) and 33(3).

5. Claims 2-7 relate to particular embodiments of the invention according to claim 1. They therefore likewise meet the PCT requirements for novelty and inventive step.